

DRAFT Testimony outline: Dr. Andy Arata

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Thank you, Chairman Coburn and members of the subcommittee on Federal Financial Management, Government Information, and International Security for the opportunity to speak before you today and to present my perspective on malaria control and progress in malaria control programs.

I have spent over 35 years working in malaria and vector-borne disease control, working for a number of international organizations in over 30 countries. I began my career at the peak of the Malaria Eradication program, worked for WHO on new control methods in the 1970's, and have served as a consultant evaluating malaria control programs using indoor residual spraying (IRS) in Africa, Latin America and Asia for both USAID and the World Bank.

I am pleased to see that US foreign aid for malaria control is re-considering the use of indoor residual spraying and DDT. For a number of years I have felt that the almost sole approach to vector control through the employment of insecticide-treated nets (ITNs) was very short-sighted producing positive but limited, results.

In general, I and many field oriented colleagues have proposed integrated control measures, employing more than one approach to vector control, depending on the ecology of the vectors in a specific area. This approach is employed not only for malaria control, but for the control of other vector-borne diseases, as well as nuisance insects. Integrated control is used extensively in agriculture. For malaria vectors this may include larval control (by chemical or biological insecticides), elimination of breeding sites, (especially man-made), housing improvements, ITNs, etc, depending on the characteristics and vector ecology in a given area.

Malaria is a very variable disease- 4 parasite species, numerous anopheline vectors, a range of transmission intensities (endemic, stable, unstable), variable biting patterns in terms of where and when the mosquitoes prefer to bite, resistance potential for both the parasites (to drugs) and the vectors (to insecticides), forest versus urban transmission, etc, etc. In other words, measures that work in southern Africa may not necessarily work in the Congo. The variety of circumstances facing the control program manager in the field is huge. On top of these factors, there are more complexities: differences in housing construction materials (wood, mud, etc) will modify the efficacy of any insecticide, so depending on only a single compound or method of application, is, in my opinion, a recipe for failure.

My career in malaria control has spanned from the Eradication era through to the re-emergence of IRS as a major control measure. To my mind, the over-riding lesson of the

malaria eradication period was that there was no “magic bullet”- local variations mattered, and a flexible approach, what I’ve called “integrated control”, was the most effective. Cookie-cutter approaches to malaria control were problematic. Sole reliance on IRS with DDT did not work well. We now have more tools available to us than we did at that time. ITNs and the newer drugs for malaria treatment offer new opportunities for effective control programs using integrated approaches tailored to local circumstances and vector specific variables. Integrated control also implies development of infrastructure and management practices, as well as community participation, even diagnosis and treatment.

I hope that those charged with the development of new malaria control programs will see their way to employ DDT as they would any other insecticide, to be tested and evaluated for efficacy, safety and cost in each situation. I think DDT still has a role to play in malaria vector control, if used as a component in integrated control systems.